ABSTRACT OF THE DISCLOSURE

A programmed state processing machine architecture and method that provides improved efficiency for processing data manipulation tasks. In one embodiment, the processing machine comprises a control engine and a plurality coprocessors, a data memory, and an instruction memory. A sequence of instructions having a plurality of portions are issued by the instruction memory, wherein the control engine and each of the processors is caused to perform a specific task based on the portion of the instructions designated for that component. Accordingly, a data manipulation task can be divided into a plurality of subtasks that are processed in parallel by respective processing components in the architecture.